# National Centers for Coastal Ocean Science
## ENVIRONMENTAL MANAGEMENT SYSTEM
## INTERNAL AUDIT REPORT
June 17 - 25, 2008

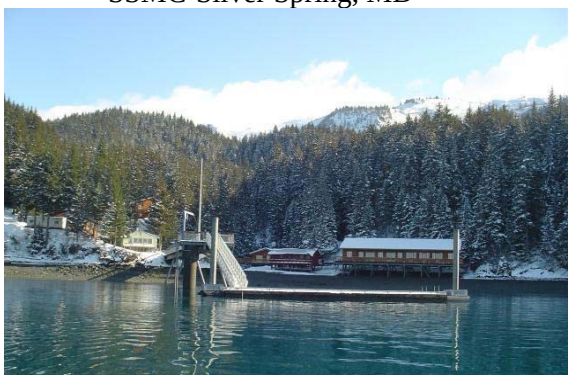

CHHR - Hollings Marine Lab-Charleston, SC


CCEHBR-Charleston, SC


CCFHR-Beaufort, NC


SSMC-Silver Spring, MD


CCEHBR-Oxford, MD


CCFHR-Kasitsna Bay, AK

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# 1 Introduction

## 1.1 Background

The National Centers for Coastal Ocean Science (NCCOS) provides the scientific basis for managing coastal and ocean ecosystems. NCCOS offers the scientific foundation for National Ocean Service (NOS) regulatory programs and decisions, assesses the state of coastal ocean ecosystems, identifies emerging issues of concern, and develops scientific information and tools to mitigate the impacts of natural and human-induced stressors on ecosystems and to support science-based management of coastal ocean ecosystems. NCCOS conducts and funds research to define the stressors and assess their consequences to ecosystem health and natural resource abundance. Based upon these studies, NCCOS forecasts the anticipated effects of alternate management strategies on ecosystems. By using science to predict potential consequences of different actions, coastal managers have the information necessary to make more informed decisions.

NCCOS's mission is to provide the scientific basis for managing coastal and ocean ecosystems.

## 1.2 Facilities Description

NCCOS is comprised of five main organizational research centers, each with specific areas of focus and expertise. Three of the centers have on-site research facilities, another center conducts research through analyses of field data, and another funds research through competitive grants.

The Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) based in Charleston, South Carolina, and administers the Cooperative Oxford Laboratory in Oxford, Maryland;
The Center for Human Health Risk (CHHR) at the Hollings Marine Laboratory (HML) in Charleston, South Carolina;
The Center for Sponsored Coastal Ocean Research (CSCOR) in Silver Spring, Maryland;
The Center for Coastal Monitoring and Assessment (CCMA) in Silver Spring, Maryland; and
The Center for Coastal Fisheries and Habitat Research (CCFHR), based in Beaufort, North Carolina, and administers the Kasitsna Bay Laboratory in Seldovia, Alaska

For more information on NCCOS's five Centers and other subparts of the organization, please visit http://www.coastalscience.noaa.gov/about/centers.html.

| | |
|---|---|
| **Total number of staff:** (includes federal, state, contractor and partners) | 527 |
| **Total number of buildings:** | 29 |
| **Square footage of facilities:** | 278, 242 sq. ft (does not include SSMC) |
| **Property acreage:** | 65 |
| **Activities that occur outside site boundaries:** | Field (marine and estuarine) sampling of local areas and waterways are conducted as well as travel to conferences and other science related activities. |

# 2 EMS Internal Audit Report

## 2.1 Audit Objectives

The 2008 internal audit centered on visits to all NCCOS facilities. The objectives of the internal audit were to assure NCCOS conformance to its EMS and help determine the degree to which the:

- EMS conforms to the ISO 14001 standard and NCCOS Environmental Policy;
- EMS has been properly implemented and maintained;
- EMS continues to meet NCCOS needs;
- Necessary documented procedures in existence are practical and satisfy the specified requirements;
- Necessary documented procedures are understood, and are being followed;
- Areas of conformity and non-conformity, with respect to implementation of the EMS, are identified and corrective actions implemented; and
- EMS objectives are met and that a basis is created for identifying opportunities and initiating actions to improve the EMS.

## 2.2 Audit Scope

The internal audit assessed operations at all NCCOS facilities as described in sections 1.1 and 1.2, as well as all EMS elements established by NCCOS for these operations against the requirements of the ISO 14001 standard, and the requirements of the NCCOS EMS internal audit criteria. The audit reflects an assessment of the NCCOS-wide system.

For additional details regarding the EMS Internal Audit Program, refer to NOAA EMS Standard EMS.013 Regulatory Compliance and EMS Audits and Self-Assessments Audit Program Chart: International Organization for Standardization. ISO-19011: Guidelines for quality and/or environmental management systems auditing. ISO/FBIS 19011:202(E).

## 2.3 Audit Team

The NCCOS EMS Coordinator/Management Representative selected the individuals listed in Table 2 to serve on the EMS internal audit team. All team members have received internal EMS auditor training, and were deemed competent to have the level of expertise necessary to conduct the NCCOS EMS audit. In

| Role | Name | Affiliation | Site Audited |
|---|---|---|---|
| **NCCOS EH&S Officer Lead Auditor** | Rick Meitzler | NCCOS CHHR – HML Charleston | CCEFHR – Kasitsna Bay |
| **NCCOS EMS Coordinator** | Bernie Gottholm | NCCOS HQ | CHHR – HML Charleston<br>CCEHBR – Charleston<br>CCEHBR - Oxford |
| **NCCOS SSMC Rep** | Harold Stanford | NCCOS HQ | CHHR – HML Charleston<br>CCEHBR – Charleston |
| **NOS Management Rep** | Jean Durosko | NOS HQ | NCCOS – SSMC<br>CCEHBR - Oxford |
| **EH&S Officer** | Jay Lewis | NCCOS CCEHBR-COL Oxford | CCFHR – Beaufort<br>NCCOS - SSMC |
| **Industrial Hygienist** | Raluca Semeniuc | NCCOS CCEHBR-Charleston | CCFHR - Beaufort |
| **EH&S Officer** | Joseph Bizzell | NCCOS CCFHR-Beaufort | CCFHR – Kasitsna Bay |

addition, four team members have completed Lead Auditor training.

### 2.4 Audit Plan

The NCCOS EMS Team developed an FY08 audit plan that was approved by Dr. Gary Matlock, NCCOS Director, on March 5, 2008. The plan for the EMS internal audit covered the following areas:

- Audit scope and objectives;
- Assignment of lead auditor and audit team;
- Coordination with auditees;
- Audit dates, times, and other logistics;
- Review of profiles, and descriptions; and
- Responsibilities for the audit report.

The FY08 Audit Plan can be found on the NCCOS EMS website at:
http://coastalscience.noaa.gov/ems/documents/Audits/fy2008-plan-signed.pdf

### 2.5 Opening Meeting

An audit opening session was conducted by the lead auditor on June 17, 2008 via video and teleconference at each of the facility locations. The meeting consisted of introductions of the audit team, re-confirmation of the audit plan, review of the audit itinerary, description of the methods and audit criteria to be used, and provided an opportunity for questions. A list of attendees for each facility is shown in Attachment A.

### 2.6 On-site Audit Process

- The onsite EMS internal audit was conducted June 17-25, 2008.
- The EMS internal audit was conducted through interviews with facility management and staff, and through reviews of documentation and records to assess and record the suitability, adequacy, and effectiveness of elements of the NCCOS EMS. Prior to beginning the audit, audit team members conducted a review of EMS documentation (e.g., standards, Environmental Management Programs (EMPs) and Improvement Plans, etc.) available on the NCCOS EMS website and, where appropriate, assessed other data and documents that provided information on the functionality of the EMS. Additional electronic and hard copy facility documentation was provided at the time of the audit for verification purposes.
- Auditors also conducted an on-site review of EMS documentation, and other data and documents (e.g., EH&S Budget and Expenditures, Emergency Preparedness Plan, Chemical Hygiene Plan, Waste Management Procedures, Job Hazard Analysis forms, employee training records, etc.). The audit team conducted interviews with individuals within each job function category. This included federal, state, partner and contract staff having a variety of roles, from general employees to those whose work activities interact with or produce significant environmental aspects. The interviews were conducted one-on-one and in groups.
- The audit team conducted a walk-through of all facilities to observe operations and activities, and to visually assess implementation of standards, programs, and controls applied to various EMS activities.
- The audit team has provided information that documents findings and opportunities for improvement. Responsibility for corrective actions will be identified during the corrective action process, and will be incorporated into corrective action reports.

- This audit report will be used as input to the NCCOS EMS Management Review.
- The internal EMS audit is a snapshot in time. It is intended to evaluate the adequacy of our documentation, our procedures, our programs, our records and reviews the implementation and consistency of our EMS at the moment.
- The audit also looks at our planned activities to meet our stated objectives and targets and how we go about controlling our significant aspects and pollution prevention techniques.
- The audit looks for evidence of management's commitment to the environmental policy and the EMS and it looks at the awareness and competency among the staff.
- The internal audit looks at our accomplishments and how as an organization we are fulfilling our commitment to continual improvement and sustainability.
- Our audit included interviews and discussions with staff, observation and some inspection as we moved around the facilities, and reviewed facility records and relevant documents, including reviews of previous audit results and corrective actions.
- We tried to make it clear that the Environmental Management System was being audited – not the staff. The purpose of the audit is to be constructive and helpful in order to contribute to the improvement of the management system.
- There is always an element of uncertainty associated with any audit. The audit evidence is based on samples of available information and only information that was verifiable is used as audit evidence. This should be kept in mind when reviewing the audit conclusions.
- In preparing the report, audit evidence will be evaluated against the audit criteria and the report will indicate conformity or nonconformity with the criteria. Audit findings will also identify any opportunities or recommendations for improvement. Realize that these recommendations are not binding but recommendations.

### 2.7 EMS Audit Schedule – June 17-25, 2008

The onsite audit took place as follows:

| | | |
|---|---|---|
| June 17-20 | - | CHHR-HML and CCEHBR, Charleston SC |
| June 17-19 | - | CCFHR, Beaufort NC |
| June 21-23 | - | CCFHR, Kasitsna Bay AK |
| June 23 | - | NCCOS SSMC (NCCOS HQ, CCMA and CSCOR) |
| June 24-25 | - | CCEHBR-COL, Oxford MD |

### 2.8 Closing Meeting

A closing meeting was conducted by the audit team on June 25, 2008 to present the audit findings and schedule for presenting the final report. The meeting consisted of a general overview of: results of the audit process, positive findings, non-conformities, concerns found during the audit, and a question and answer period. A list of attendees for each facility is shown in Attachment B.

## 3 Audit Findings

The auditors have identified **5 findings of non-conformance** with established ISO 14001 and NCCOS EMS criteria. In addition, the auditors identified **8 opportunities for improvement** of the EMS. Attachment C describes the NCCOS EMS Internal Audit Criteria and provides the audit team summary. The summary reflects the NCCOS EMS using data obtained by the auditors at all facilities.

### 3.1 General Observations

During the audit, information was collected relevant to the audit scope, objectives and criteria as well as information on functions, activities and processes. Only information that could be verified was recorded and used as audit evidence. The audit evidence is based on a sampling, and therefore it should be noted that an element of uncertainty exists. The audit team found many positive examples of environmental awareness during the audit. Some of these include:

- The environmental awareness of the staff at all facilities is very high. Many employees stated that the EMS has raised their awareness and has provided motivation and a mechanism to initiate additional environmental improvements.
- Most employees agreed that an established culture of pollution prevention, environmental compliance and desire for continual improvement regarding environmental aspects existed prior to the EMS but that the EMS has now provided a formal system within the organization.
- The placement of an EMS statement in each NCCOS federal employees' performance plan was verified.
- Interviews with both management and staff indicated that there are a range of measures which contribute to reducing the environmental impacts of NCCOS operations. Examples include: use of bicycles and electric golf carts to travel back and forth within site facilities, chemical substitution and reduction, increased recycling, consideration of EMS in facility documents, and priority given to green purchasing. It is now routine for scientific processes to be assessed during the planning phase to identify opportunities to reduce environmental impacts (e.g., reducing environmental exposure and reducing hazardous chemicals).
- The EMS website continues to be the primary means to train employees and communicate environmental related information. As we progress with our EMS, the website will continue to be an effective instrument in providing training and communications to all staff across NCCOS.
- Corrective actions from past audits have been either completed or are being addressed.

Attachment D lists EMS accomplishments, taken from NCCOS Weekly Report submissions, for the period October to June 2008

### 3.2 Non-conformities

The following non-conformities were identified during the EMS Internal Audit and will require corrective actions to be completed by NCCOS. Some of these findings were also noted in previous audits of the NCCOS EMS.

| # | Classification | Description of Non-Conformity | EMS Element | Status |
|---|---|---|---|---|
| 1 | Minor | When a new activity, product or service is initiated there is a lack of evidence of employee knowledge on how to ascertain if any new significant environmental aspects have been introduced.<br><br>**Recommendation:** For new projects, the facility NCCOS EMS Team member and the local facility EMS representative from the appropriate functional group should work with PIs to help them assess the potential environmental impacts against each of the NCCOS EMS criteria to determine if there is a level of significance. The process is described in the NCCOS EMS Standard 004. | EMS 004 Environmental Impact Identification<br><br>ISO 14001 4.3.1 | |
| 2 | Minor | While Environmental Improvement Activities have been developed through Environmental Management Plans, the concept is not well grasped.<br><br>**Recommendation:** Management and EMS Team members (both at the NCCOS and Local Facility level) need to communicate to staff the Objectives, Targets and Environmental Management Programs and their relationship to NCCOS' significant environmental aspects, legal requirements and environmental policy. | EMS 006 Environmental Improvement Activities<br><br>ISO 14001 4.3.3 | |

| # | Classification | Description of Non-Conformity | EMS Element | Status |
|---|---|---|---|---|
| 3 | Minor | EMS training should help to provide employees and contractors (where applicable) the necessary skills and knowledge to perform their work in an environmentally sound manner. Besides training, records generated during training must be retained.<br><br>**Recommendation:** Ensure that the EMP for training continues to be expanded and follows the NOAA and DOC requirements for training. In addition, persons at each facility should be designated to track and maintain the necessary documents needed to verify training. | EMS 007 Environmental Awareness and Training<br><br>ISO 14001 4.4.2 | |
| 4 | Minor | Although EMS Work instructions, also referred to as SOPs and SOGs, are available on the NCCOS EMS website, (some facility-specific instructions are on the intranet), the majority of employees interviewed were not aware of them. Those that were aware of the Work Instructions had not integrated them into day-to-day activities. Therefore, further education of employees and emphasis on improving work instructions is required.<br><br>**Recommendation:** Establish written protocols where none exist. Review existing SOPs/SOGs and update where necessary. It is suggested that the following statement be included: "*This protocol of standard operating procedures (SOPs)/ guidelines (SOGs) fully incorporates the NOAA/ NCCOS Environmental Management Systems (EMS) requirements and conforms to E.O. 13423. The SOPs/SOGs include appropriate considerations regarding evaluating and minimizing an environmental footprint, and implementing energy and water conservation directives. For more information please visit the official website at http://coastalscience.noaa.gov/ems/welcome.html*"<br><br>Work Instructions should include appropriate considerations to the Compliance Assurance Program (CAP). It may be necessary to review the present way that the CAP is maintained (by NOAA SECO) and NCCOS may want to consider entering into a subscription service with an outside vendor to ensure that all CAP requirements are up-to-date. | EMS 008 Environmental Operational Controls<br><br>ISO 14001 4.4.6 | |

| # | Classification | Description of Non-Conformity | EMS Element | Status |
|---|---|---|---|---|
| 5 | Minor | EMS documents are stored and managed via the NCCOS EMS website, and the NCCOS facility- specific intranet. In some instances, there were different versions of environmental documents, plans, reports, etc. Therefore, it was not clear to either the auditors or those staff which documents were current and which were obsolete. While an NCCOS wide Document Control System is being reviewed there is a need to do a document review at each facility in order to ensure that employees have access to all documents that are relevant and that those documents are up-to-date.<br><br>**Recommendation:** Develop an NCCOS wide document control system taking advantage of existing systems where possible. This should enable NCCOS to control key documents related to environmental management. This task has been delegated to the NCCOS EMS Coordinator and the NCCOS IT Manager. In the meantime, it is strongly recommended that a thorough document review be conducted at each facility to eliminate duplicate documents and ways and access paths to documents; secondly, change settings within documents to prevent the date from automatically updating when accessed; third, designate responsibility to one staff person (ex: EH&S) and one management person (ex: Deputy Director) to sign off and date all documents to verify the latest version available; fourth, the NCCOS EMS Coordinator will review the NCCOS EMS website to ensure all obsolete and out-of-date information is removed. It is strongly recommended that each facility take care to not duplicate information from the NCCOS EMS website onto their local intranet or other sites and ensure that all staff access the NCCOS EMS website only through the NCCOS homepage http://coastalscience.noaa.gov/<br><br>This will ensure that staffs are accessing the latest information. | EMS 011 Documentation and Control of EMS Documents and Records<br><br>ISO 14001 4.4.5 | |

### 3.3 Opportunities for Improvement

During the EMS internal audit the following opportunities for improvement were identified.

| # | Opportunity for Improvement | EMS Element | Action |
|---|---|---|---|
| 1 | Implement a system to provide feedback to employees on EMS suggestions for improvement. Determine whether EMS suggestions be submitted/ reported through the NCCOS EMS website or utilize the NCCOS SharePoint sites to enhance communication to all NCCOS personnel. | EMS 009 Internal Communications<br><br>ISO 14001 4.4.3 | NCCOS EMS Coordinator and NCCOS IT Manager will investigate and work with web developer and Local Facility EMS Teams and IT leads. |
| 2 | Groups within NCCOS that engage in contract and grant processes should include EMS language. Suggested EMS language for new and existing contracts, modified from FedCenter, will be placed onto the NCCOS EMS website. | EMS 008 Environmental Operational Controls<br><br>ISO 14001 4.4.2 and 4.4.6 | NCCOS EMS Coordinator will complete by August 31, 2008. Ref: EMS contract language on NCCOS EMS website. |
| 3 | Review the way that EMS is communicated to visitors and vendors at each site and modify on a site by site basis. Each facility access is unique and ways to communicate EMS to visitors and vendors should be discussed among facility management and the local facility EMS team. Suggestions from staff should also be sought. | EMS 009 Internal Communications<br><br>ISO 14001 4.4.3 | Each facility manager (Director or DRO) should develop, document and implement by October 1, 2008. |
| 4 | Review the Compliance Awareness Program (CAP) procedure currently in place. Consider an NCCOS-wide subscription to BLR or something similar to maintain an updated CAP. | EMS 005 Environmental Laws, Regulations and Other Requirements<br><br>ISO 14001 4.3.2 | NCCOS EH&S Officer and NCCOS EMS Team will make recommendation to NCCOS Management by October 1, 2008. |

| # | Opportunity for Improvement | EMS Element | Action |
|---|---|---|---|
| 5 | Investigate the possibility of having a NOAA building management person assigned to the NCCOS EMS Team. | EMS 002 Roles and Responsibilities<br><br>ISO 14001 4.3.1 | Each Local Facility Team has a facility/operations representative. NOS Management Rep will request that NOAA provide a rep to the NCCOS EMS Team. |
| 6 | Ensure that the EMS training being provided is the latest. The facility management designee, responsible for new staff, should notify the facility NCCOS EMS Team Rep when new staff comes onboard to ensure that all environmental and safety training requirements are met and the training is documented. This should be a standard practice incorporated into all new staff orientation at each facility. | EMS 007 Environmental Awareness and Training<br><br>ISO 14001 4.4.2 | All NCCOS Facilities – the Director or DRO should ensure that a process is in place and documented by October 1, 2008. |
| 7 | The NCCOS COOP (all facilities) should be reviewed and updated if necessary on a quarterly basis. NCCOS HQ IT should work with management to ensure that secure server space is available for each facility manager to maintain updated COOP plans, accessible only to those persons designated by the facility Director and by Director, NCCOS. | EMS 009 Internal Communications<br><br>ISO 14001 4.4.3 | All NCCOS Facilities– the Director or DRO should initiate a review to ensure that the facility COOP is updated. The NCCOS IT Manager will specify the secure server space location. Review and update no later than October 1, 2008. |
| 8 | Work (with NOAA SECO & others) to develop a means of establishing baselines for energy and water consumption at NCCOS facilities. Determine appropriate methods of reporting and develop recommendations, where the need exists, for improving energy and water use diagnostics such as energy use indices (EUI). One example is kilowatt-hours used per square foot (kWh/SF). | EMS 006 Environmental Improvement Activities<br><br>ISO 14001 4.3.3 | NCCOS EMS Coordinator will work with the NOS EMS Management Rep and NOAA SECO to initiate methods for baseline determination. Local facility operations and maintenance staff may be called upon to provide specific facility information. |

## 3 Summary

The recent NCCOS EMS Internal Audit (June 17-25, 2005) confirms that all of the NCCOS sites have made significant progress in their activities and operations. The audit teams were made aware of many commendable achievements at each local facility.

A significant effort toward sustainable EMS activities is the inclusion of our many partners and collaborators. These partners, located within NCCOS facilities, are actively participating in the continual improvement of the NCCOS EMS as was evident during the 2008 EMS Internal Audit.

This audit process laid the groundwork for the next level of auditing scheduled for the first quarter of FY09. Each person should be proud as representatives of our NCCOS environmental commitment at the worker level.

All of these accomplishments have helped strengthen the NCCOS EMS toward sustainable activities locally and NCCOS wide.

Attachment A

***LIST OF OPENING MEETING ATTENDEES – June 17, 2008***

***NCCOS – SSMC Silver Spring, MD***
*Alicia Jarboe - Deputy Director, NCCOS*
*Mark Mohs - NCCOS IT Manager/NCCOS EMS Team*
*Jean Durosko - NOS EMS Representative/NCCOS EMS Team*
*Jawed Hameedi - Science Representative, CCMA*
*Tim Dorch - NCCOS HQ Communications Coordinator/NCCOS EMS Team*
*Mia Robinson - NCCOS HQ Budget Analyst/NCCOS EMS Team*

***CHHR and CCEHBR - Charleston, SC***
*Geoff Scott - Director, CCEHBR*
*Paul Comar - Deputy Director, CCEHBR*
*Hal Stanford - NCCOS EMS Team Management Representative*
*Bernie Gottholm - NCCOS EMS Coordinator*
*Rick Meitzler - NCCOS EH&S Officer/2008 EMS Lead Auditor*
*Dan Bearden - NIST*
*Mike Fulton - CCEHBR*
*Steve Morton - CHHR-CCEHBR EMS Facility Team Chair*
*Jan Gooch - CCEHBR*
*Ron Lundstrom - CCEHBR*

***CCEHBR - Oxford, MD***
*Bob Wood - DRO, CCEHBR COL*
*AK Leight - COL EMS Facility Team Chair*
*Julianna Brush - COL EMS Science Representative*

***CCFHR - Beaufort, NC***
*Jeff Govoni - Deputy Director, CCFHR*
*Eric Williams - NMFS*
*Aleta Hohn - NMFS Director, CCFHR*
*Gretchen Martin - NMFS, CCFHR*
*Pat Tester - CCFHR*
*Jill Fegley - NERRS, CCFHR EMS Facility Team member*
*Anna Hilting - CCFHR EMS Facility Team member*
*John Burke - CCFHR*
*Joseph Bizzell - CCFHR EH&S Officer/NCCOS EMS Team*
*Jay Lewis - CCEHBR COL EH&S Officer/NCCOS EMS Team*
*Raluca Semeniuc - CCEHBR Charleston Industrial Hygienist/NCCOS EMS Team*

***CCFHR - Kasitsna Bay, AK***
*Kris Holderied - DRO, CCFHR Kasitsna Bay Lab*

Attachment B

***LIST OF CLOSING MEETING ATTENDEES – June 25, 2008***

***NCCOS - SSMC Silver Spring, MD***
*Alicia Jarboe - Deputy Director, NCCOS*
*Mark Mohs - NCCOS IT Manager/NCCOS EMS Team*
*Russell Callender - Director, CCMA*
*Darrell McElhaney - Deputy Director, CSCOR*

***CHHR and CCEHBR - Charleston, SC***
*Geoff Scott - Director, CCEHBR*
*Paul Comar - Deputy Director, CCEHBR*
*Steve Morton - CHHR-CCEHBR EMS Facility Team Chair*
*Fred Holland - Director, CHHR-HML*
*Susan White - Deputy Director, CHHR-HML*
*Peter Moeller - CCEHBR-HML*
*Ron Lundstrom - CCEHBR*
*Jan Gooch - CCEHBR*
*Mike Sellers - CHHR-HML*
*JD Dubick - CCEHBR*
*Raluca Semeniuc - CCEHBR Industrial Hygienist/NCCOS EMS Team*

***CCEHBR - Oxford, MD***
*Bob Wood - DRO, CCEHBR COL*
*AK Leight - COL EMS Facility Team Chair*
*Jay Lewis - CCEHBR COL EH&S Officer/NCCOS EMS Team*
*Jean Durosko - NOS EMS Representative/NCCOS EMS Team*
*Bernie Gottholm - NCCOS EMS Coordinator*

***CCFHR - Beaufort, NC***
*David Johnson - Director, CCFHR*
*Jeff Govoni - Deputy Director, CCFHR*
*Mia Robinson - NCCOS HQ Budget Analyst/NCCOS EMS Team*
*Aleta Hohn - NMFS Director, CCFHR*
*Hal Stanford - NCCOS EMS Team Management Representative*
*Joseph Bizzell - CCFHR EH&S Officer/NCCOS EMS Team*

***CCFHR – Kasitsna Bay, AK***
*Kris Holderied - DRO, CCFHR Kasitsna Bay Lab*
*David Christie - University of Alaska Fairbanks, Kasitsna Bay Lab*

Attachment C

# National Centers for Coastal Ocean Science

# Environmental Management System
# Internal Audit Criteria

## Background to NCCOS EMS Audit Criteria

The National Centers for Coastal Ocean Science (NCCOS) is committed to establishing and maintaining robust environmental management systems (EMS) that support operations and enable the NCCOS to meet their mission efficiently.

In an effort to promote the continuous improvement of the NCCOS EMS, organizations designated as "appropriate facilities" conduct internal audits to identify those EMS elements that warrant the focus of efforts for improvement. These audits help organizations understand their current status and map a performance improvement pathway for the future.

The attached audit criteria are designed to assist organizations assess their EMS's, determine conformance with ISO 14001, and meet the NOAA requirements.

## Conducting the Internal EMS Audit

Internal EMS audits are conducted annually by individuals who have received internal auditor training or are experienced in audit-related matters, and are employees of the organization that is being audited.

The purpose of the internal audit is to provide information on the system for its continual improvement. Such an audit normally results in the listing of findings and presentation of opportunities for improvements, even for mature systems.

## EMS Audit Criteria

The EMS Audit Criteria are established:

- To assist NCCOS appropriate facilities in identifying the strong and weak elements of their EMSs.
- To enable NCCOS to identify those areas of environmental management across the organization that should be the focus of improvement actions.
- To provide a streamlined approach for verifying EMS implementation, and determining environmental performance status.
- To support NCCOS meeting report requirements, and implementing the annual Management Review.

## Section 1:
## Environmental Policy

*The organization's environmental policy provides an overarching vision for the management of environmental issues and a framework for setting objectives and targets.*

### Environmental Policy
*The environmental policy is well recognized by both employees and senior staff, and is used to drive the Environmental Management System.*

| | Compliance | Continual Improvement | Pollution Prevention |
|---|---|---|---|
| **1. Does the environmental policy include a commitment to:** | ☒ | ☒ | ☒ |

| | Available to the public | Available to all employees | Used to drive Objectives |
|---|---|---|---|
| **2. Is the environmental policy:** | ☒ | ☒ | ☒ |

**3. What % of employees interviewed knew the content of the environmental policy?** 100%

***Note***

Environmental awareness across all staff levels, as well as partners and contractors, was very high to the point where there was no differentiation between one group and another. The existence and location of the NCCOS Environmental Policy was high. Knowledge of the specifics within the Environmental Policy was somewhat less.

## Section 2:
## Planning

*The planning phase of the EMS reviews and assesses potential environmental risks, to, and from operations, allowing the organization to determine where its objectives and resources should be focused.*

### Environmental Aspects
*A robust process exists for identifying the significant environmental risks, to, and from operations.*

| | Exists and is documented | Is followed by employees | Was used to review aspects this year |
|---|---|---|---|
| **1. A procedure for identifying environmental aspects:** | ☒ | ☒ | ☐ |

| | Legal and other requirements | Risks | Stewardship and Operations | Pollution Prevention Opportunity |
|---|---|---|---|---|
| **2. Criteria used to determine which environmental aspects are significant:** | ☒ | ☒ | ☒ | ☒ |

**3. Out of ten employees interviewed what were the three most commonly identified significant environmental aspects?**

Aspect: Natural Resources (Energy Conservation)

Aspect: Solid Waste (Recycling)

Aspect: Waste Water (Water Reduction)

**4. Out of three senior employees interviewed what were the three most commonly identified significant environmental aspects?**

Aspect: Natural Resources

Aspect: Solid Waste

Aspect: Hazardous Materials

| | Yes | No |
|---|---|---|
| **5. Were the organization's primary processes/operations assessed for their environmental aspects?** | ☒ | ☐ |

### Legal and Other Requirements
*A strong formal process exists to ensure the awareness of appropriate individuals to current regulatory and NCCOS requirements.*

| | Exists and is documented | Is followed by employees | Was used to review requirements this year |
|---|---|---|---|
| **1. A procedure for identifying legal and other requirements:** | ☒ | ☒ | ☒ |

**2. What % of employees were interviewed whose job function has legal and/or other environmental requirements:**

- Could articulate the requirements? 95%
- Knew how to locate the requirement in the EMS? (i.e., have access to it). 95%

3. **Is the organization aware of its environmental requirements? (legal or otherwise)**

Not Aware ☐☐☐☐☒☐ Very Aware

***Note***

Management and PIs are very aware of the legal and other requirements. Most staff are aware of those requirements that are directly related to their job function. All staff are aware that being an environmental organization brings with it the responsibility to do what is correct.

**Recommendation:** Need to review the Compliance Awareness Program (CAP) procedure currently in place. Consider an NCCOS-wide subscription to BLR or something similar to maintain an updated CAP.

## Objectives and Targets

Measurable objectives and targets enable the organization to drive performance improvement.

| | Significant Aspects | Legal and other requirements | Cost | Pollution Prevention |
|---|---|---|---|---|
| 1. **Do objectives address:** | ☒ | ☒ | ☒ | ☒ |

2. **How many objectives are established?** 3

3. **Are objectives achieved on time?** None ☐☐☐☒☐☐ All

4. **To what degree have targets been achieved in the last twelve months?** 85%

***Note***

Progress is being made and the objectives and targets are on track. A uniform waste disposal BPA for three of the four lab facilities has been instituted; potential substitute materials identification and use and reduction and use of hazardous materials continue throughout NCCOS; energy and water consumption are being reduced through life cycle and cost effective methods, where possible. Plans are to have resource audits conducted at NCCOS facilities. The lessor for the SSMC complex is trying to attain LEED certification. IT acquisition currently meets at least 95% of requirements with EPEAT-registered electronic products. Communication among partners and stakeholders has increased and additional educational opportunities are being reviewed. NOAA facility task codes are being used. to track environmental costs and are being monitored at the NCCOS HQ level.

## Environmental Management Programs (EMP)

*Clear plans assign responsibility, and provide a schedule and process to achieve objectives and targets.*

| | Time frame for achieving the objective | An individual designated as responsible | Funding allocated by management | Implementation Plan to achieve objectives | Operational Controls | Performance Indicators |
|---|---|---|---|---|---|---|
| 1. **Management programs include:** | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |

2. **Which significant aspects are not covered by a management program, and do these have operational controls?**

| | Controls in Place |
|---|---|
| Aspect: Air Emissions | ☒ |
| Aspect: Land (control access) | ☒ |
| Aspect: Cultural Resources (control access) | ☒ |
| Aspect: Noise (verbal procedure to inform community) | ☒ |
| Aspect: Waste Water (lab procedures) | ☒ |
| Aspect: Water Quality (lab procedures) | ☒ |

3. **On average, how often are EMPs updated?**

| 1 Month | 3 Months | 6 Months | 1 Year or More | never |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☒ | ☐ |

# Section 3: Implementation and Operation

*The implementation phase of the EMS allows the organization to use standardized processes for training, communication, and document management to ensure that objectives are achieved and operations carried out in accordance with established controls (i.e., work instructions, SOPs, plans, etc…).*

## Resources, Roles, Responsibility and Authority

*Senior managers demonstrate commitment to environmental performance, and environmental roles and responsibilities are clearly defined.*

1. **What are the total resources currently provided for environmental management?**

*Financial*: There is no separate accounting code specified within the NCCOS budget. However, environmental costs are tracked by NCCOS Budget staff using NOAA facility codes, as well as tracking EMS Team members' travel and training expenses. In addition, a percentage of each Team member's salary has been estimated based on time allocated to environmental management and compliance.

*Human Resources*: As of March 2008, a full time EMS Environmental Coordinator position was established at the NCCOS HQ level.

- NCCOS EMS Team staff time equivalent 3.2 FTEs
- Salary equivalent $279K
- Training, Travel & Conferences, etc $ 37K

*Note: costs for the NOS Management Representative are covered by NOS*

| | Staff | Middle Management | Upper Management |
|---|---|---|---|
| **2. What is the position of the NCCOS management representative?** | ☐ | ☒ | ☐ |

**3. How many individuals are there on the NCCOS EMS Team?** 10

| | |
|---|---|
| Bernie Gottholm | NCCOS HQ |
| Jean Durosko | NOS |
| Rick Meitzler | CHHR-HML Charleston |
| Joseph Bizzell | CCFHR-Beaufort |
| Hal Stanford | NCCOS HQ |
| Jay Lewis | CCEHBR-COL |
| Raluca Semeniuc | CCEHBR-Charleston |
| Mark Mohs | NCCOS-IT |
| Mia Robinson | NCCOS-Finance |
| Tim Dortch | NCCOS-Outreach |

**4. Which of the following functions are included on the NCCOS EMS team?**

- Environmental Compliance ☒
- Safety ☒
- Human Resources ☐
- Science/Research Divisions ☒
- Operation and Maintenance ☐
- Senior Manager ☒
- Information Technology ☒
- Purchasing ☒

**5. What % of individuals with specific environmental responsibilities interviewed, could clearly describe their responsibilities?**

95%

***Note***

Local EMS Teams have been established representing each Center and facility. These teams are also involved in the environmental issues at their facility.

**Recommendation:** Look at the possibility of having a NOAA building management person assigned to the NCCOS EMS Team.

## Competence, Training, and Awareness

*A robust process exists for ensuring that staff with environmental responsibilities receives appropriate and adequate environmental training.*

| | Yes | No |
|---|---|---|
| **1. Have the job functions related to operations with significant aspects been identified and documented?** | ☒ | ☐ |
| **2. Have the training requirements of job functions related to operations with significant environmental aspects been identified and documented?** | ☐ | ☒ |

**3. What % of individuals whose job functions relate to operations with significant environmental aspects could describe their responsibilities? What % were considered to be competent to execute their roles and responsibilities?**

All employees are hired for their competency. They are schooled in the SOPs/SOGs and mentored by established personnel until they have become competent in executing the activities required. At that time, they are given approval to work on their own. This process is consistently applied throughout NCCOS facilities, but is not formally documented in all instances.

**4. How many employees have had environmental training specific to their job:**

All employees have documented training related to their job. Training records, maintained in a central location, both in electronic format and in paper certificates documenting course completion are kept in file folders. Management and supervisors have access to this information.

**5. What percentage of staff have received environmental awareness training?** 98%

**6. Out of 10 individuals interviewed how many:**

- Could summarize the environmental policy? 9
- Knew the potential environmental impacts of their job? 9

- Knew the organization's primary environmental aspects? 8
- Know who to contact regarding environmental issues? 10
- Knew who the EMS representative is? 10

***Note***

In general, employees were able to communicate environmental aspects and impacts specific to their job function. Most were aware of legal responsibilities.

**Recommendation:** Ensure that the EMS training being provided is the latest. IT staff or management should notify the responsible EH&S rep when new staff comes onboard to ensure that all environmental and safety training requirements are met. Annually review, and update as needed, all environmental aspects and impacts worksheets (have the operational controls specified where applicable).

## Communication

*A robust communication procedure provides well defined lines of communication to employees, managers, and stakeholders.*

**1. Does a procedure for internal and external communication exist, and is it documented?** Yes ☒ No ☐

**2. Does the procedure for communication provide for:**

- How environmental information is communicated to senior managers ☒
- How environmental information is communicated to laboratory staff ☒
- How environmental information is communicated to headquarters staff ☒
- How inquiries from external sources are routed, handled and documented ☒
- Whether significant environmental aspects should be communicated externally ☒

**3. On average how do employees rate environmental communications?**

a. CHHR-HML Charleston, SC

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☐☒☐
- Five general employees ☐☐☐☐☒☐
- Two EMS Team members ☐☐☐☐☒☐

b. CCEHBR- Charleston, SC

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☐☒☐
- Five general employees ☐☐☐☐☒☐
- Two EMS Team members ☐☐☐☐☒☐

c. CCFHR-Beaufort, NC

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☒☐☐
- Five general employees ☐☐☐☒☐☐
- Two EMS Team members ☐☐☐☐☒☐

d. SSMC-Silver Spring, MD

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☐☒☐
- Five general employees ☐☐☐☐☒☐
- Two EMS Team members ☐☐☐☐☐☒

e. CCFHR-Kasitsna Bay, AK

Average rating (Weak ↔ Very Strong)

- One senior managers (1) ☐☐☐☐☒☐
- One scientist (1) ☐☐☐☐☒☐
- Two general employees (2) ☐☐☐☐☒☐
- Two EMS Team members (N/A) ☐☐☐☐☐☐

f. CCEHBR-Oxford, MD

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☐☒☐
- Five general employees ☐☐☐☐☒☐
- Two EMS Team members ☐☐☐☐☒☐

**4. How do employees rate the commitment to environmental management of senior managers?**

Average rating (Weak ↔ Very Strong)

- Two senior managers ☐☐☐☐☐☒
- Ten scientists ☐☐☐☐☒☐
- Five general employees ☐☐☐☐☒☐
- Five EMS Team members ☐☐☐☐☒☐

***Note***

Senior NCCOS management has indicated that EMS is communicated to upper level management groups (such as the NOAA Safety and Environmental Council as well as the NOS AA and NOAA CAO). This is done in an attempt to encourage more NOS and NOAA contributions to EMS. Interviews with employees indicate that feedback and response on suggested actions need to be communicated more frequently from management.

**Recommendation:** Management needs to discuss environmental information regularly and also discuss the

***Note (cont)***

relevance to overall NOAA, NCCOS, and Center objectives. The NCCOS EMS Team needs to establish an employee suggestion box on the EMS website and also look at the possibility of creating and managing an environmental blog.

***Note (cont)***

In addition, those groups within NCCOS that engage in the contract and grant processes should include EMS language. Suggested EMS contract language, modified from FedCenter, will be placed onto the NCCOS EMS website.

## Documentation

*Critical environmental programs, processes, controls and procedures exist as formal documents, allowing for process standardization and repeatability.*

**1. Are the following documents available:**

- Environmental Policy ☒
- Objectives and Targets ☒
- Description of EMS Scope ☒
- Management Programs ☒
- Work Instructions ☒
- Guidelines/Handbooks ☒
- Orders ☒

**2. How many employees could describe what environmental documents were relevant to them?**

| | Average rating<br>Weak ◄► Very Strong |
|---|---|
| ▪ Two senior managers | ☐☐☐☐☒☐ |
| ▪ Ten scientists | ☐☐☐☐☒☐ |
| ▪ Five general employees | ☐☐☐☐☒☐ |
| ▪ Facilities | ☐☐☐☐☒☐ |
| ▪ Procurement | ☐☐☐☐☒☐ |
| ▪ Two EMS Team members | ☐☐☐☐☒☐ |

***Note***

Most employees either had written standard operating procedures/ guidelines or other documentation, although most do not include any reference that consideration is given to EMS.

**Recommendation:** Establish written protocols where none exist. Review existing SOPs/SOGs and update where necessary. It is suggested that the following statement be included: "This protocol of standard operating procedures (SOPs)/ guidelines (SOGs) fully incorporates the NOAA/ NCCOS Environmental Management Systems (EMS) requirements and conforms to E.O. 13423. The SOPs/SOGs include appropriate considerations regarding evaluating and minimizing an environmental footprint, and where applicable implementing energy and water conservation directives. For more information please visit the NCCOS EMS official website at http://coastalscience.noaa.gov/ems/"

## Control of Documents

*A robust procedure ensures that critical environmental documents are maintained in an appropriate manner and, when necessary, are readily available to all applicable individuals.*

| | Exists and is formally documented | Describes the approval process | Describes requirements for review | Describes version control requirements |
|---|---|---|---|---|
| **1. A procedure for document control:** | ☒ | ☒ | ☒ | ☒ |

**2. How many obsolete or out of date EMS documents were found?**

*During the audit, evidence showed that some facility documents were found to be obsolete or out-of-date. In addition, information on the NCCOS EMS website was found to be out of date.*

**3. What percentage of employees knew how to locate environmental documents relevant to them?**

| | Percentage |
|---|---|
| ▪ Senior managers (ask at least 2) | 95% |
| ▪ EMS Team members (ask at least 5) | 95% |
| ▪ Scientists (ask at least 10) | 90% |

| | Yes | No |
|---|---|---|
| **4. Is an electronic system used to manage environmental documents?** | ☐ | ☒ |
| **5. Is there a list of controlled documents?** | ☐ | ☒ |

***Note***

Employees knew for the most part how to locate environmental documents relevant to them. However, it was demonstrated that employees could not always find the most updated version of a document. This appeared to be due to: a) documents being located on multiple drives and/or b) multiple copies of the same document (with different dates) being available.

**Recommendation:** Develop an NCCOS wide document control system taking advantage of existing systems,

***Note (cont)***

where possible. This should enable NCCOS to control key documents related to environmental management. This task has been delegated to the NCCOS EMS coordinator and the NCCOS IT manager. In the meantime, it is strongly recommended that a thorough document review be conducted at each facility to: 1) eliminate duplicate documents and ways and access paths to documents; 2) change settings within documents to prevent the date from automatically updating when accessed; 3) designate responsibility to one staff person (ex: EH&S) and one management person (ex: Deputy Dir) to sign off and date all documents to ensure latest version available; 4) NCCOS EMS Coordinator to review website to ensure all obsolete and out-of-date information is removed; 5) take care to not duplicate information from the NCCOS EMS website onto local intranet or other sites and 6) ensure that all staff access the NCCOS EMS website only through the NCCOS homepage: http://coastalscience.noaa.gov/

This will ensure that all staff are accessing the latest information.

### Operational Control

*All operations that have the potential for significant environmental impacts are controlled.*

1. **What percentage of activities with the potential for significant environmental impacts have operational controls?** 100%

2. **Out of 5 employees required to use established operational controls, how many are able to accurately describe the control requirements?**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| ☐ | ☐ | ☒ | ☐ | ☐ |

3. **How many non-conformities of operational controls have occurred over the past twelve months?**

| Don't Know | Less than 5 | Less than 10 |
|---|---|---|
| ☐ | ☒ | ☐ |

***Note***

The NCCOS EMS Operational Control concept/process is not really understood. Those who participated in the original process do have a grasp of the process used.

**Recommendation:** At this point it is more important that employees understand what an operational control is rather than the process that the EMS Team used tin the development. As we progress, additional information/training can be provided to help employees understand the process.

### Emergency Preparedness and Response

*Impacts to the environment are considered in emergency preparedness and response programs.*

1. **Emergency response plans/procedures are:**

- Available ☒
- Inclusive of environmental impacts ☒
- Reviewed once a year ☒
- Periodically tested ☒
- Kept updated ☒

***Note***

Emergency Plans, Chemical Hygiene Plans, Hurricane Preparedness Plans, etc were available for review.

**Recommendation:** It is suggested that the NCCOS COOP (all facilities) be updated at least on a quarterly basis and that NCCOS HQ IT work with the facility IT staff to maintain the updated versions on a secured drive, accessible to only those individuals designated by NCCOS Management - Director and Center Directors.

## Section 4: Checking

*The checking phase of the EMS allows the organization to monitor the performance of significant environmental risk operations, and evaluate their environmental objectives and targets (i.e. regulatory compliance etc…)*

### Monitoring and Measurement

*Monitoring programs ensure that effectiveness of the EMS in reducing environmental risks and improving environmental performance tracked and reported.*

1. **What metrics are used to measure progress toward objectives and targets?**

- Annual EMS Internal Audits
- OMB scorecard
- Monthly Supervisory Office Safety Assessments
- Periodic NOAA Environmental Compliance and Safety Assessment System (NECSAS) Inspection

2. **Does each objective and target have a performance metric?** Yes ☒ No ☐

3. **Does each operational control have a performance indicator?** Yes ☒ No ☐

Yes No

4. **If any instruments are used to measure performance are they calibrated?** ☒ ☐

5. **On average, how frequently is the performance of operational controls reviewed?**

| 1 month | 3 months | 6 months | 1 year | more |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☒ | ☐ |

6. **Out of 5 interviewed employees who are required to follow operational controls, when, on average, was their conformity to the requirements of the operational control last reviewed?**

| 1 month | 3 months | 6 months | 1 year | more |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☒ | ☐ |

***Note***

Monthly inspections by management and staff are effective means of assessing ongoing environmental (and safety) performance and increasing awareness of staff of environmental requirements.

**Recommendation:** Use this time to educate staff on the environmental issues and aspects specific to the organization.

## Evaluation of Compliance

*The organization is In compliance with all applicable environmental regulations and strong programs are in place to ensure that this continues.*

1. **How many environmental Notices of Violation has occurred this fiscal year?** 0

2. **How many environmental fines have occurred this fiscal year?** 0

3. **How many inquiries from the general public regarding environmental compliance/requirement have been received this year?** 0

4. **How many environmental compliance issues have been identified from internal inspections or reviews?** 4

- waste – comprehensive chemical and biological waste disposal contracts/agreements to increase efficiency of environmental management practices and reduce costs is being implemented by CCFHR
- training – review of training requirements under the compliance assurance program as well as training conducted in accordance with DOC/NOAA policies and OSHA Standards and Training Guidelines
- control records – identified documents are to be maintained and controlled
- other legal – maintenance of Compliance Assurance Program updates

5. **When was the last internal compliance/legal inspection or review?**

| Never | <3 months | <6 months | <1 year | >1 year |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☒ |

6. **What is management's perception of the level of environmental compliance**

| Poor | Some opportunity for improvement | Adequate | Strong | Very Strong |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☒ |

7. **What is the EMS Team's perception of the level of environmental compliance?**

| Poor | Some opportunity for improvement | Adequate | Strong | Very Strong |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☒ | ☐ |

***Note***

Communication between Management and personnel with directly assigned responsibilities for Safety, Environment and Health (including individual lab work areas) continues to be strong.

## Non-conformity, Corrective and Preventative Action

*Non-conformities with regulation, operational controls, or procedures are quickly corrected and the root cause addressed to prevent future recurrences.*

| | Exist and is it formally documented | Is followed by employees | Meets ISO 14001 requirements |
|---|---|---|---|
| 1. **A procedure for correcting non-conformities:** | ☒ | ☒ | ☒ |

2. **How many findings were identified in the last internal audit?** 14

3. **How long, on average, did it take to correct findings from the last internal audit?**

| 1 month | 3 months | 6 months | <1 year | more |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☒ | ☐ |

4. **How many non-conformities have been identified since the last internal audit?** Refer to page 9 of report 5

**(e.g., EMPs, operational controls, etc.)**

**5. For what % of non-conformities were preventive actions developed or initiated?**

95%

***Note***

Some documents/ records system have corrective actions on-going. No one time action resolves all

***Note (cont)***

issues as others are then encountered. The system is one of continual improvement.

## Control of Records

*Records necessary to verify that required actions have been executed, are well managed, protected, easily accessible and timed for retention.*

| | Exists and is formally documented | Is followed by employees | Meets ISO 14001 requirements |
|---|---|---|---|
| **1. A procedure for controlling records:** | ☒ | ☒ | ☒ |

**2. Were the following records available:**

- EMS Team Meeting Minutes ☒
- Past two EMS Audits ☒
- Past two EMS Management Reviews ☒
- Monitoring and Measurement Data ☒
- Operational Control Monitoring Results ☐
- Compliance Review Inspection Results ☒
- EMS Procedures Results ☒

***Note***

The above records are available on the NCCOS EMS website. A procedure for controlling records exists (file management), but will be enhanced with the introduction of an NCCOS comprehensive document control system.

## Internal Audit

*Internal audits have been conducted appropriately so as to ensure the EMS is operating as efficiently and effectively as possible.*

| | Exists and is it documented | Is used by EMS Auditors | Meets ISO 14001 requirements |
|---|---|---|---|
| **1. A procedure for internal audits:** | ☒ | ☒ | ☒ |

**2. Does the procedure for internal audits include:**

- Scope of the audit ☒
- Audit Plan ☒
- This audit criteria ☒
- Provisions for corrective actions ☒

| | Yes | No |
|---|---|---|
| **3. Did this audit follow the internal audit procedure?** | ☒ | ☐ |

**4. How many internal audits have been completed to date?**

3

- November 2005
- July 2006
- September 2007

**5. Is there an Audit Program?**

Yes

***Note***

A strong internal procedure has been adopted by NCCOS for conducting periodic audits of the EMS to determine conformance with ISO 14001 and NOAA EMS Standards, and to determine the EMS is properly maintained and documented.

# Section 5: Management Review

*The management review phase of the EMS enables top managers to review the system in order to ensure that it adequately supports the organization.*

## Management Review

*Senior management reviews help to calibrate the direction of the EMS in support of the organization's mission and ensure that priority items are understood and that sufficient resource are provided to address them.*

**1. When was the last management review conducted?**

| 1 month | 3 months | <6 months | 1 year | more |
|---|---|---|---|---|
| ☐ | ☐ | ☒ | ☐ | ☐ |

2. **Did the input to the last management review meet the requirements of ISO 14001?** Yes ☒ No ☐

3. **How many actions did management request the NCCOS EMS team to take?** 2

   1. Prepare FY 08 NCCOS EMS Audit Plan
   2. Ensure all NCCOS FTEs have an EMS statement in their performance plan

4. **What was management's assessment of the current level of resources assigned to manage all environmental issues?**

| More Needed | Adequate | Not Assessed |
|---|---|---|
| ☐ | ☒ | ☐ |

5. **What are the top two areas that management believes the EMS should focus on?**

   Priority: Personnel Accountability

   Priority: Document control system (on-going)

6. **Did management recommend any changes to the following:**

   - Environmental Policy — No
   - Objectives — No
   - Targets — No
   - Other: — Yes

   * see Question #3 above

7. **What was the position of the two most senior managers in attendance (in person) during the management review?**

   Position: NCCOS Deputy Director

   Position: NCCOS Center Directors, Deputies and DROs

***Note***

## Section 6: Other EMS Information

*This section gathers other information that is pertinent to the EMS.*

1. **What benefits have been observed through implementation of the EMS?**

- At the outset of EMS implementation there were significant concerns regarding added costs. Interviews show that EMS for the most part has been cost neutral and, in some cases, resulted in savings. As a result, management and employees who were initially skeptical of the cost versus benefit continue to embrace the EMS and accept it as a normal part of their job.
- Improved environmental awareness ensures that staff take more care with environmental requirements, and are more aware of not only impacts but opportunities for improvement as well.
- Staff are more aware of the environmental benefits that result from performing their job functions following SOPs and SOGs and decreasing their environmental impact.
- Communication between management and staff on environmental issues continues to improve at each facility.
- Increased attention has been placed on recycling (e.g., cardboard, plastic bags, styrofoam etc) and there is an increased awareness of proactive waste management efforts by staff at each facility.
- Formal support for existing stewardship efforts, e.g., environmental preferable purchasing, IT efforts for energy efficiency, paper reduction, energy conservation and reduction of water usage etc. are now routine.
- Increased awareness of chemical substitution goals, which in turn supports safety goals, is continuing at each facility.
- Reduction in chemical volume, resulting from new equipment and processes, is in operation. Awareness has been elevated and staff now consider EMS when looking for, or testing, alternatives.
- EMS has increased the visibility of NCCOS's position on environmental management and empowered staff to promote environmental stewardship.
- Employees and partners, not only across NCCOS but NOAA as well, share ideas and success stories. This is encouraging cohesion and collaboration among partners.
- With the implementation of NOAA facility codes, environmental costs are better categorized, enabling them to be tracked and more easily used for budgeting and planning, etc.

- There are currently innovative plans by several PIs to take “field work” into the lab and thus reduce impacts on the environment.

## Section 7: Audit Background

*The following information provides background on the audit, auditors and auditees.*

1. **Date of Audit:** June 17 -25, 2008

2. **Audit Number:** 4

3. **Auditor(s):**

| | | |
|---|---|---|
| Name: Rick Meitzler | Position: Lead Auditor | ☒ |
| Name: Bernie Gottholm | Position: NCCOS HQ | ☒ |
| Name: Hal Stanford | Position: NCCOS HQ | ☒ |
| Name: Raluca Semeniuc | Position: CCEHBR-Chs | ☒ |
| Name: Jean Durosko | Position: NOS | ☒ |

4. **Name and Position of Senior NCCOS Management Interviewed:**

| | | |
|---|---|---|
| Name: Alicia Jarboe | Position: Dep Dir, NCCOS | ☒ |
| Name: Fred Holland | Position: Director, CHHR | ☒ |
| Name: Susan White | Position: Dep Dir, CHHR | ☒ |
| Name: Geoff Scott | Position: Director, CCEHBR | ☒ |
| Name: Paul Comar | Position: Dep Dir, CCEHBR | ☒ |
| Name: Jeff Govoni | Position: Dep Dir, CCFHR | ☒ |
| Name: Russell Callender | Position: Director, CCMA | ☒ |
| Name: Terry McTigue | Position: Dep Dir, CCMA | ☒ |
| Name: Rob Magnien | Position: Director, CSCOR | ☒ |
| Name: Bob Wood | Position: DRO, CCEHBR COL | ☒ |
| Name: Kris Holderied | Position: DRO, CCFHR KB | ☒ |
| Name: Joseph Bizzell | Position: CCFHR | ☒ |
| Name: Jay Lewis | Position: CCEHBR-COL | ☒ |

5. **Employees Interviewed**

The following number of staff at each facility were interviewed:

| | |
|---|---|
| CHHR HML- | 42 |
| CCEHBR Charleston - | 39 |
| SSMC - | 29 |
| CCEHBR COL - | 27 |
| CCFHR Beaufort - | 47 |
| CCFHR Kasitsna Bay - | 4 |

## *NCCOS FY08 EMS Accomplishments*

*10_03_2007*

**NCCOS Completes Successful Audit to Assure Environmental Stewardship at CCFHR**

The National Centers for Coastal Ocean Science (NCCOS) Environmental Management System (EMS) Audit for the Center for Coastal Fisheries and Habitat Research (CCFHR) was conducted September 10-14, 2007 by six members of the NCCOS EMS Audit Team. Preliminary comments by the EMS Audit Team indicate that CCFHR had a successful audit. The primary objectives of the audit were (1) to measure stewardship of natural resources by CCFHR and its employees to support NCCOS's mission and balance society's environmental, social, and economic goals, and (2) to discern how CCFHR builds effective natural resource and environmental stewardship in the private, local, state, and tribal sectors through education, technical assistance, and outreach. Audit Team members (two members per team) conducted twenty minute individual employee interviews. CCFHR senior management was interviewed individually for several hours by the EMS Audit Team. The official report is expected by mid November, 2007. For more information contact David Johnson at (252) 728-8746 or David.Johnson@noaa.gov. (CCFHR)

*10_17_2007*

**EMS Implementation Leads to Reduced Costs and Increased Efficiency in Laboratory Analyses**

Scientists at the National Centers for Coastal Ocean Science (NCCOS) Center for Coastal Environmental Health and Biomolecular Research have incorporated new analytical technologies to significantly reduce usage of solvents in daily operations. The new technologies allow for automated chemical analysis combining two or more analytical detection techniques simultaneously in efforts to identify toxins and other chemical analytes of interest. This innovation reduces the use of solvents by combining sequential operations into one. This reduces research time, saves solvent and chemical usage, significantly reduces disposal amounts and costs, and is an important action component in NCCOS's Environmental Management System. For more information contact Peter Moeller at (843) 762-8867 or Peter.Moeller@noaa.gov. (CCEHBR)

*12_12_2007*

**Hazardous Waste Removal Plan Improves Environmental Stewardship**

A first-ever timetable for collection of hazardous waste will further the role of the National Centers For Coastal Ocean Science (NCCOS) in protecting environmental and public health at its coastal facilities. With the new schedule, which began in September, employees move hazardous waste into an on-site hazmat storage bunker once a month and the collected waste is shipped out every six months. Smaller quantities in the laboratories will reduce potential exposure and injury to workers. During hurricane season, smaller quantities in the bunkers will mean less chance of contaminated water sources and airborne contaminants. The plan also helps NCCOS become compliant with Occupational Safety and Health Administration, Environmental Protection Agency, and state regulations. For more information, contact Joseph Bizzell at (252) 728-8718 or Joseph.Bizzell@noaa.gov (CCFHR).

*12_12_2007*

**Stormwater Plan will Safeguard Estuarine Waters while Educating the Public**

Contractors have completed an innovative stormwater development plan designed to safeguard estuarine waters surrounding a National Centers for Coastal Ocean Science (NCCOS) facility. The plan, distributed in October, recommends several techniques for improving runoff from Pivers Island, North Carolina. These techniques include oil-water separator technology, check dams, cisterns, infiltration through wetland areas, and Smart Sponge filters designed to trap oil and destroy bacteria. A proposed educational trail will allow the public to observe these practices in use. Once implemented, the techniques will upgrade the quality of discharge waters, improve the island's appearance, and serve as a model for new approaches to reduce adverse impacts of runoff. The plan is a collaborative effort between the NCCOS Center for Fisheries and Habitat Research, the North Carolina National Estuarine Research Reserve, and Duke University Marine Laboratory, all of whom share the

island. The three institutions will now seek funding for implementation of the plan. For more information, contact Carolyn Currin at (252) 728-8749 or Carolyn.Currin@noaa.gov. (CCFHR)

*01_16_2008*

**CCFHR Personnel Learn about NCCOS EMS Policies**

A National Centers for Coastal Ocean Science facility conducted Environmental Management System (EMS) awareness training in its auditorium January 8, 9, and 11. Although EMS online training is an annual requirement, personnel are unable to submit questions or to voice concerns while using that method. As a result, EMS representatives held the training as a public forum. This allowed personnel to attend a presentation, voice concerns and ask questions of their center EMS representatives. For more information, contact Joseph Bizzell at (252) 728-8718 or Joseph.Bizzell@noaa.gov. (CCFHR)

*01_31_2008*

SSMC Tenant Board Meetings – Activities affecting EMS

**Purpose**

Tenant Board Meetings are held quarterly to ensure ample dialogue, information exchange, dissemination and coordination amongst tenants at the Silver Spring Metro Center Campus (SSMC) and National Capital Region (NCR).

**Facilities Operational Initiatives:**

**Energy Conservation Initiatives**

The SSMC Variable Frequency Drive (VFD) Project has evolved and been renamed the Energy Audit Study. This effort was brought to NOAA by Foulger-Pratt as an effort to reduce energy. Since the inception, NOAA has contracted with Washington Gas Company (WGC) to conduct a Preliminary Energy Audit Study. NOAA/AGO is scheduling a kick off meeting for the Study by WGC. A report by WGC will identify areas of concern that would require a more in-depth study to determine action needed to reduce energy consumption, resulting in cost savings.

**Science Center Dimming System Replacement**

The dimming system for the lighting in the Science Center is scheduled to be replaced during of the week of March 10-14, 2008. Once installed the system will allow for better control of the lights, tenants will be able to preset lighting scenes when necessary. The dimming system for the NOAA Auditorium was replaced in May 2007.

**Cooling Tower Replacement – Campus-wide**

The Cooling Tower equipment for SSMC II, III and IV has reached the end of its useful life cycle of approximately fifteen years. As a result, a determination has been made for equipment replacement over the next three fiscal years. The first replacement is scheduled for fiscal year 2008 and has been approved in the FY2008 Tenant Board Budget. Each unit will be examined and a determination made regarding the upgrade/replacement required.

**Aerator Replacement – LEED Requirement**

Foulger-Pratt replaced aerators on all bathroom and kitchen sinks on campus. This initiative is directly related to the mandate to ensure compliance with the Leadership in Energy and Environmental Design (LEED) requirement for certification (SECO is aware and supports this initiative). Building Management has received a few complaints concerning the additional time it takes to fill coffee pots or containers. However, no major complaints have been expressed as we continue to educate the tenants on the environmental mandates for efficiency.

*02_13_2008*

**CCEHBR Staff Participate in Community Cleanup**

On February 2, staff from the National Centers for Coastal Ocean Science's (NCCOS) Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) volunteered in their first Adopt-A-Highway litter pickup of the year. Nine volunteers filled 17 bags of trash along a particularly well-littered mile of road in Charleston County, SC. CCEHBR volunteers have participated in this community service project three times a year for the past 18 years and have filled a total of 829 bags of trash representing 6.23 tons of litter. For more information, contact Pete Key at (843) 762-8596 or Pete.Key@noaa.gov. (CCEHBR)

*03_05_2008*

**Recycling Building Materials Illustrates NCCOS EMS Resourcefulness**

Staff at the Center for Coastal Fisheries and Habitat Research (CCFHR) took recycling to new heights the week of February 17 when they salvaged roofing materials from a demolished outbuilding. During demolition of an old dive locker, maintenance staff removed the entire roof and used the material to construct a new generator building. Staff also removed weather-resistant double doors and vinyl from other buildings slated for demolition, and reused this material for the generator building. Staff's decision to reduce waste while saving money illustrates their commitment to NOAA's Environmental Management System policies. The demolition is a part of ongoing efforts to modernize the aging CCFHR campus. Construction crews currently are dismantling and awaiting permit approval to remove three additional buildings: a larval laboratory building, a seawater laboratory building, and a statistics building. For more information, contact David Johnson at (252) 728-8746 or David.Johnson@noaa.gov. (CCFHR)

**NCCOS EMS Continues to Improve Environmental Awareness and Involvement throughout the Organization**

The National Centers for Coastal Ocean Science (NCCOS) Environmental Management System (EMS) Team conducted an annual review to discuss upcoming internal (June 2008) and external (November 2008) audits. At the workshop, held February 25-29, 2008 at the NCCOS Hollings Marine Laboratory in Charleston, SC, participants reviewed EMS aspects and impacts and went over Executive Order 13423 "Strengthening Federal Environmental, Energy, and Transportation Management" which establishes more aggressive goals and directs Federal agencies to implement sustainable practices. All local EMS Facility Teams met by phone to review the Charter, clarify roles and responsibilities of each facility team, and provide a briefing on the planned audits. They also considered plans aimed at improving environmental stewardship and energy conservation within NCCOS. Meeting minutes and additional information will be distributed by next week and posted on the NCCOS EMS website at NCCOS Environmental Management Systems (EMS) . For more information, contact your NCCOS EMS Representative NCCOS Environmental Management Systems (EMS): EMS Team members or Bernie Gottholm at (301) 713-3028 or B.William.Gottholm@noaa.gov. (HQ)

*03-12_2008*

**Laboratory Benches and Cabinetry Get New Life at Corals Laboratory in Charleston, South Carolina**

The Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) recycled bench tops and associated cabinetry into its new corals research building. The laboratory benches and cabinetry were removed from marine biotoxins labs being renovated. After decontamination and new paint, the materials are ready for service in the Corals Laboratory. The decision to reduce waste and save money at the same time illustrates CCEHBR management and staff's strong commitment to the NCCOS Environmental Management System. For more information, contact Malcolm Meaburn at (843) 762-8526 or Malcolm.Meaburn@noaa.gov. (CCEHBR)

SAFETY – EMS related

**Quarterly Information Sharing Reinforces NCCOS Safety Culture**

National Centers for Coastal Ocean Science (NCCOS) staff attended a quarterly information-sharing meeting March 6 to review new requirements and issues concerning NCCOS safety and the Environmental Management System (EMS). Topics included new small-boat training requirements, the online safe driving course, safe

drinking water and water filter effectiveness, safety accomplishments of 2007, and an updated schedule for mold-remediation projects. The talk also addressed an EMS directive to decrease energy use at NCCOS facilities. The reduced energy use requirement calls for determining baseline energy consumption, and using that information to track energy use over time. Ongoing quarterly meetings at the Center for Coastal Fisheries and Habitat Research reinforce and enlarge the NCCOS safety and EMS culture already in place at the facility. For more information, contact David Johnson at (252) 728-8746 or David.Johnson@noaa.gov. (CCFHR)

*3_19_2008*

**Reducing and Reusing Water Lowers Environmental Footprint of HML Operations**

Building managers at the National Centers for Coastal Ocean Science's Hollings Marine Laboratory (HML) have efficiently recalibrated the sensors in a water cooling tower, saving 1.7 million gallons of water a year. When conducting a repair to the tower, they used the opportunity to recalibrate the sensors to the manufacturer's recommended specifications which improved the operation of the supply system and created the large savings in water and budget. This is one of several measures recently implemented at HML to reduce water use. These measures contribute to an effective use of resources as HML conducts its part of the NOAA mission. For more information, contact Martin Burnett at (843) 762-8808 or Martin.Burnett@noaa.gov, or Cleve Robertson at (843) 762-8934 or Cleve.Robertson@noaa.gov. (HML)

THE PEOPLE

**NCCOS HQ Welcomes Long-Time Center Staff Member**

Bernie Gottholm has been reassigned to National Centers for Coastal Ocean Science (NCCOS) Headquarters from the Center for Coastal Monitoring and Assessment to serve as the NCCOS Environmental Management System (EMS) Coordinator. Bernie has been with the National Ocean Service since 1976 as an Oceanographer and has been involved with such projects as the Exxon Valdez Damage Assessment Study and the Northeast Monitoring and National Status and Trends Programs. Bernie has managed several programs and, as such, has acquired an array of management and administrative skills. In his role as NCCOS EMS Coordinator, Bernie will be actively involved with the environmental and EMS activities at NCCOS's five Centers and other subparts of the organization. For more information, contact Bernie Gottholm at (301) 713-3028 x168 or B.William.Gottholm@noaa.gov. (HQ)

*3_26_2008*

THE PEOPLE

**It's Official: NCCOS Employee Trades White Collar for Green**

Bernie Gottholm has been officially reassigned to Headquarters Staff as the NCCOS Environmental Management System (EMS) Coordinator. As such, Bernie's responsibilities include: authority and responsibility for coordination and management of EMS, providing guidance and oversight, and will serve as liaison between the NCCOS Director, Deputy, and staff. He will be NCCOS's Environmental Management Representative; coordinate EMS meetings, audits, management reviews, and briefings, and have responsibility for documentation and records management. NCCOS also recognizes and appreciates Rick Meitzler for serving as the previous Coordinator, including during its implementation. Rick will continue to be NCCOS's Safety Officer and Environmental Compliance Officer, along with being the Safety Officer and Environmental Compliance Officer for Hollings Marine Lab and the Center for Coastal Environmental Health and Biomolecular Research, as well as their EMS coordinator. Thanks to both of them, a smooth transition of NCCOS EMS responsibilities from Rick to Bernie has already begun. For more information, contact Bernie Gottholm at (301) 713-3028 x168 or B.William.Gottholm@noaa.gov, or Alicia Jarboe at (301) 713-3020 or Alicia.Jarboe@noaa.gov. (HQ)

*4_02_2008*

**Regional Conference Continues Eco-Friendly Theme**

Organizers of the 16th annual Southeast and Mid-Atlantic Marine Mammal Symposium (SEAMAMMS) in Charleston continued the tradition of hosting an eco-friendly conference by incorporating environmental

consciousness into different parts of the event. Electronic files were provided instead of printed abstract books to reduce paper waste, and attendees used biodegradable plates, napkins, and utensils. Hot and cold drink cups were made of PLA plastic, a compostable material derived from U.S.-grown corn. Fair Trade coffee was served during breaks, and other food and beverage items were purchased locally from businesses that provide organic and environmentally sustainable goods and services. For more information, contact Lori Schwacke at (843) 762-8868 or Lori.Schwacke@noaa.gov, or Katie Dombrowski at (843) 762-8919 or Katie.Dombrowski@noaa.gov. (HML)

*4_09_2008*

SAFETY - EMS related

**Silver Spring Facility Employees Hold All-Day Focus on Safety**

To coincide with the National Ocean Service's Safety Day, the National Centers for Coastal Ocean Science (NCCOS) Silver Spring Metro Center (SSMC) personnel participated in safety presentations throughout the day on April 9, 2008. All managers, supervisors, employees, contractors, and partners located in NCCOS Headquarters, the Center for Coastal Monitoring and Assessment, and the Center for Sponsored Coastal Ocean Research watched a presentation on office safety, which laid out roles facilitating a safe workplace and provided simple safety steps designed to avoid office mishaps. Safety Team members reacquainted staff on the SSMC Occupant Emergency Plan and Shelter-in-Place procedures, SSMC Emergency Procedures and use of the Quick Reference Guide. Also included was a discussion of actions NCCOS is taking to comply with the FY 2008 National Ocean Service Environmental, Health, and Safety Action Plan. For more information, contact Bernie Gottholm at (301) 713-3028 x168 or B.William.Gottholm@noaa.gov, or Hal Stanford at (301) 713-3020 or Hal.Stanford@noaa.gov. (HQ)

*4_16_2008*

**Three NCCOS Environmental Management System Team Members Complete Required Lead Auditor Training**

Three members from the National Centers for Coastal Ocean Science (NCCOS) Environmental Management System (EMS) Team, Richard Meitzler (Hollings Marine Lab), Raluca Semeniuc (Center for Coastal Environmental Health and Biomolecular Research), and Joseph Bizzell (Center for Coastal Fisheries and Habitat Research) completed EMS Lead Auditor training during March 2008. This training is focused on attainment of three sets of defined competencies: auditing, environmental management systems, and team leadership. The course curriculum follows the basic steps of an EMS audit, from preparation and evaluation to reporting and corrective action. Attendees learn auditing processes and procedures using the Guidelines for Quality and/or Environmental Management Systems Auditing (ISO 19011:2002) standard, as well as the ISO 9001:2000 and 14001 standards. Upon successful completion of the course and examination, candidates are accredited to the internationally recognized standard and are RABQSA International (http://www.rabqsa.com/)-qualified. This training not only helps meet EMS performance objectives, but also ensures future success and the ability to evaluate achievement of environmental performance and sustainable operations. For more information, contact Bernie Gottholm at (301) 713-3028 or B.William.Gottholm@noaa.gov, or Rick Meitzler at (843) 762-8842 or Rick.Meitzler@noaa.gov. (HQ)

SAFETY – EMS related

**NCCOS Promotes Sustainable Workplace Safety & EMS**

The Cooperative Oxford Laboratory held annual Environmental Safety and Health refresher training March 31 to April 4, 2008 for National Centers for Coastal Ocean Science (NCCOS), NOAA Chesapeake Bay Office, Maryland Department of Natural Resources, and contractor staff. Training highlighted the in-place safety plans to meet NOAA and regulatory requirements. Training topics included: emergency evacuation, the Hazard Communication Plan, the Chemical Hygiene Plan, the NCCOS Environmental Management System, handling, shipping, and receiving dangerous goods, CPR, first aid, oxygen delivery, proper handling of chemicals, and forklift safety. A facility walk-through inspection was also conducted. For more information, contact Jay Lewis

at (410) 226-5193 x119 or Jay.Lewis@noaa.gov, or Rick Meitzler at (843) 762-8842 or Rick.Meitzler@noaa.gov. (CCEHBR-Oxford)

**NCCOS Supports NOAA Small Boat Safety**
The National Centers for Coastal Ocean Science's Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) hosted a "Train the Trainer, NOAA Small Boat Component Workshop" from March 31 to April 4. Eleven individuals from across the U.S. and representing the line offices of NOAA were trained to present an eight-hour course to all NOAA Small Boat Operators (SBO). The goal is to have all SBOs trained in this NOAA Component within the next 12 months. There are nearly 800 NOAA SBOs, operating over 400 vessels at 93 different locations throughout the U.S. At Friday's closing session, the NOAA Small Boat Safety Program Coordinator, Lieutenant G. Mark Miller, called this training a milestone in the NOAA Small Boating Program. Lt. Miller thanked the course presenters, Marine Rescue Consultants, as well as numerous CCEHBR and Hollings Marine Laboratory personnel for planning and logistical support. For more information, contact Paul Bauersfeld at (843) 762-8570 or Paul.Bauersfeld@noaa.gov. (CCEHBR, HML)

**NOS Safety Day Recognized Through Safety Meeting**
Center for Coastal Environmental Health and Biomolecular Research and Hollings Marine Laboratory personnel attended an all-hands staff meeting covering various safety matters on Tuesday, April 8 timed to coincide with NOS Safety Day declaration for the same week. Topics covered were motor vehicle and boat safety; safety during hurricanes, thunderstorms, and lightning strikes for both at work and home planning; and Material Safety Data Sheet preparation and electronic record keeping in lieu of hard copies.. For more information, contact Rick Meitzler at (843) 762-8842 or Rick.Meitzler@noaa.gov. (CCEHBR, HML)

**Massive Mold Remediation Project Completed at NCCOS Facility**
Thanks to completion of a $440,000 mold remediation project, all employees at the Center for Coastal Fisheries and Habitat Research (CCFHR) are now working in a mold-free environment. The seriousness of CCFHR's mold problem became apparent in late 2005 when a mold assessment at the facility found unsafe levels of mold growth in five buildings. A project to remediate the mold began in 2006 and consisted of two phases. Phase I focused on reducing humidity and repairing building problems that contributed to mold growth. This work included installing thermostatically controlled attic fans, new centralized air conditioning, and air-handling equipment. Phase II then thoroughly removed the mold, and disinfected offices, laboratories, ductwork, and public spaces. For more information, contact David Johnson at (252) 728-8746 or David.Johnson@noaa.gov. (CCFHR)

*4_30_2008*
**NCCOS-wide Conservation Activities Initiated on Earth Day Promote Stewardship**
Lending a hand in the worldwide effort marking Earth Day April 22, National Centers for Coastal Ocean Science facilities started new projects to better the environment. At the Center for Coastal Fisheries and Habitat Research, employees plan to discuss environmental management issues using a new intranet site. At the Silver Spring, MD, Metro Center facility, a member of the Environmental Management System (EMS) team provided two containers—at his own expense—for recycling plastic bags. The two centers in Charleston, SC (the Center for Coastal Environmental Health and Biomolecular Research and the Hollings Marine Lab), using a guiding philosophy that the best way to show EMS benefits is through the wallet, planned to send out ideas for staff to increase gas mileage with personal and government fleet vehicles and boats. Though individually the efforts are small, adding to an array of other global efforts they can help make a difference. For more information, contact Bernie Gottholm at (301) 713-3020 or B.William.Gottholm@noaa.gov. (HQ)

SAFETY – EMS related
**Small Boat Operators Across the Nation Receive NOAA Safety Training**
The Vessel Operation Coordinator (VOC) at the Center for Coastal Fisheries and Habitat Research (CCFHR) has completed NOAA's "Train the Trainer" class, and is now qualified to teach NOAA's component boat classes. CCFHR's VOC is one of 22 NOAA employees trained over the past few months to provide mandatory training to small boat operators throughout the U.S. The required eight-hour class reviews the newly released

"NOAA Small Boat Standards and Procedures Manual." It also teaches risk assessment procedures, while building leadership and team coordination skills. The training aims to improve mission safety and efficiency for all small boat operations. Small boat operators at every NOAA facility must complete the training by April 2009. For more information, contact Roger Mays at (252) 728-8798 or Roger.Mays@noaa.gov. (CCFHR)

*5_14_2008*

**Chemical Disposal Agreement Benefits NCCOS EMS**

A Blanket Purchase Agreement (BPA) with ARM Environmental Services of Columbia, SC has led to the recycling and beneficial reuse of 100% of solvents generated at the CCEHBR Charleston and Oxford (COL) laboratories. CCEHBR was also successful in recycling 95-100% of all hazardous chemicals generated in 2007. We anticipate CCEHBR will eventually recycle 95-100% of all hazardous and non-hazardous chemicals generated. The BPA initiated in September 2006 through the NOAA Eastern Regional Acquisition Division was developed to reduce costs to NOAA, promote NCCOS's Environmental Management System, improve efficiency, and commit NCCOS laboratories to dispose of chemical wastes by recycling wherever possible. For more information, contact Jay Lewis at (410) 226-5193 x119 or Jay.Lewis@noaa.gov, or Rick Meitzler at (843) 762-8842 or Rick.Meitzler@noaa.gov. (CCEHBR-Oxford)

SAFETY – EMS related

**NOAA in the Carolinas Conference Stresses Hurricane Preparedness**

Emergency managers, meteorologists, academia, and staff gathered May 6 at the Center for Coastal Fisheries and Habitat Research (CCFHR) to learn about hurricanes and recent advances in forecasting methods. The daylong NOAA conference featured Jay Barnes, renowned hurricane historian, plus guest speakers from the National Weather Service, including the National Hurricane Center (NHC), the Hydrometeorological Prediction Center, and CCFHR. A key forecasting change to begin this year is the NHC's release of real-time forecast data. Data currently are released at nine-hour intervals. NWS staff explained a variety of radar models that improve predictions. They also focused on the many forms of hurricane dangers, ranging from wind and tornadoes, to storm surge and freshwater flooding from rain. On the topic of mariner safety and marine forecasting, experts demonstrated how satellite data compares to buoy data for observations of wave spectra and, in particular, large swells. These observations will improve storm wave forecasts. For more information, contact David Johnson at (252) 728-8746 or David.Johnson@noaa.gov, or Jeff Govoni at (252) 728-8727 or Jeff.Govoni@noaa.gov. (CCFHR)

*5_21_2008*

SAFETY – EMS related

**New In-Depth Training Will Increase Level of Care for Injured Divers**

About two-thirds of all divers at the Center for Coastal Fisheries and Habitat Research have completed a new Divers Alert Network (DAN) course. DAN's Diving First Aid for Professional Divers teaches a higher level of care for injured divers than was previously provided. It also saves time and money by combining courses previously taught individually. All divers scheduled for annual renewal in 2008 have completed the new course. The remaining divers will complete the course when their certification expires in 2009. The course consists of three elements that meet annual refresher training required by the NOAA Diving Program, including CPR first aid, and oxygen delivery to injured divers. It also provides training in hazardous marine life injuries. For more information, contact Roger Mays at (252) 728-8798 or Roger.Mays@noaa.gov. (CCFHR)

*5_28_2008*

SAFETY – EMS related

**Local Emergency Personnel Learn about Center's New Emergency Plan**

Center for Coastal Fisheries and Habitat Research (CCFHR) management met with local emergency officials May 14 to explain CCFHR's new Occupant Emergency Plan, and to ask for comments on the plan. Management called the meeting to ensure effective communication with emergency services personnel in preparation for a potential catastrophic event. Police, sheriff, and fire department officials listened to CCFHR's

plan for responding to earthquakes, hurricanes, terrorist attacks, chemicals spills, etc. They then toured the facility to see where laboratories are located, where hazardous materials and chemicals are stored, where staff will shelter in place, and other staff relocation areas. Management also provided officials with copies of the Occupant Emergency Plan, as well as with the layout and site plans for the facility. As a means of testing the plan, the Beaufort Police Department offered to conduct a bomb threat drill at the facility in the near future. For more information, contact Joseph Bizzell (252) 728-8718 or Joseph.Bizzell@noaa.gov. (CCFHR)

*6_04_2008*

**NCCOS Vessel Conversion to Soy Fluid Promotes Environmental Stewardship**

Hydraulic fluids for the winch and A-frame systems onboard the R/V Laidly were recently converted to soy fluid hydraulic all-season biodegradable oil, obtained from Environmental Lubricants Manufacturing, Inc. After the change in hydraulic fluid, the safe working load for each system was retested, as required. In all respects, the new bio-based fluids appear to be performing at least as well as the old petroleum-based oils. A switch to bio-based fuel is being pursued. For more information, contact Jay Lewis at (410) 226-5193 x119 or Jay.Lewis@noaa.gov, or Captain Skip Collier at (410) 226-5193 x109 or Skip.Collier@noaa.gov or lcollier@dnr.state.md.us. (CCEHBR-Oxford)

**Electronic Work Order Tracking System Will Automate Maintenance Requests**

A new system for submitting and tracking maintenance work orders at the Center for Coastal Fisheries and Habitat Research (CCFHR) will reduce paperwork to save time and trees. On May 19, CCFHR staff stopped submitting paper requests for facility maintenance assistance and began using the electronic Work Order Tracking System (*e*WOTS). The *e*WOTS system serves as a central repository that allows facilities management to search for, and track the progress of, work orders. The system will help facilities management account for spending on facility-related items, and will verify the number of work hours spent to complete maintenance requests. In addition, requests for work order approvals will automatically move through the chain of command, versus manually moving from desk to desk. This will enable staff to more quickly complete work requests. For more information, contact Ronnie Bradley at (252) 728-7604 or Ronnie.Bradley@noaa.gov, or Randy Grady at (252) 728-7768 or Randy.Grady@noaa.gov. (CCFHR)

SAFETY – EMS related

**NCCOS and Partners Improve Boat Safety During 4th Annual Vessel Emergency Preparedness and Survival Awareness Training**

The National Centers for Coastal Ocean Science (NCCOS), Maryland Department of Natural Resources, and United States Coast Guard (USCG) joined forces to present the 4th annual safety-at-sea training program for operators, researchers, and other crew on May 12 and 13, 2008 at the Cooperative Oxford Laboratory, Oxford, Maryland. Dynamic hands-on training improved the ability of potential crew to respond safely to boating emergencies. Nearly 50 participants practiced donning floatation and survival gear, escaping from hatches, jumping into the water, climbing into life rafts, launching flares, tossing life rings, using an Automatic Emergency Defibrillator, and responding rapidly to bursting pipes, leaking hulls, and other emergencies simulated in a Damage Control Unit. Life boats were contributed by the United States of America Services, Inc., and the USCG supplied the Damage Control Unit. For more information, contact Captain Skip Collier at (410) 226-5193 or Skip.Collier@noaa.gov or lcollier@dnr.state.md.us, or Shawn McLaughlin at (410) 226-5193 or Shawn.McLaughlin@noaa.gov. (CCEHBR-Oxford)

**Cooperative Oxford Lab's R/V Laidly Commended During Inspection**

Rear Admiral Jonathan W. Bailey commended the Cooperative Oxford Laboratory for continuing a high level of proficiency operating the R/V Laidly, in his annual vessel inspection report to the Director of the National Centers for Coastal Ocean Science, dated May 15, 2008. The report states, "there are no specific risk concerns associated with the boat's material condition, management, operations, or level of emergency preparedness. As noted last year, the excellent safety training program by this organization could be a model for other NOAA Small Boat operators." This is the third consecutive year that the vessel has achieved high levels of

commendation on vessel operations at the Oxford Lab. For more information, contact Jay Lewis at (410) 226-5193 x119 or Jay.Lewis@noaa.gov, or Captain Skip Collier at (410) 226-5193 x109 or Skip.Collier@noaa.gov or lcollier@dnr.state.md.us. (CCEHBR-Oxford)

*6_18_2008*

**The EMS Internal Auditors Have Arrived, Aim Is Eco-Awareness Leadership**

Starting this week, various members of the National Centers for Coastal Ocean Science (NCCOS) Environmental Management System (EMS) team fanned out to each of NCCOS's Centers and labs with the goal of ascertaining the level of staff participation in environmental stewardship. Through a series of easy questions, the team members need to gauge, without passing judgment, the level of compliance with NCCOS's EMS, which was implemented in 2005. In preparation for this audit, the EMS team produced a series of five Spotlight factsheets and two Eco-notes newsletters for all staff, and updated the look of the website (http://coastalscience.noaa.gov/ems/). This internal audit is in anticipation of an external audit, scheduled for later this year. As Executive Order 13423 makes clear, the Federal government needs to reduce waste, reuse and recycle, and save energy wherever and whenever possible. Simply by having an EMS, NCCOS is at the forefront of NOAA's compliance with the Executive Order. For more information, contact Bernie Gottholm at (301) 713-3020 or B.William.Gottholm@noaa.gov. (HQ)

*Significance*: As NCCOS's early commitment to EMS begins to bear fruit, internal audits are an important method of learning how the program office as a whole is advancing.

**Reduced Electricity Use Will Cut Costs and Conserve Energy**

To conserve energy and lower the power bill, the Center for Coastal Fisheries and Habitat Research (CCFHR) has officially cut back on electricity use. On June 11, CCFHR management instructed staff to reduce the number of lighted areas within all buildings, while maintaining safety and security requirements. CCFHR implemented the measure after learning of a projected 16.2 percent increase in electricity costs, owing in large part to an increased demand for fossil fuels. This action will enhance the environmental friendliness of CCFHR's Beaufort campus and promote the National Centers for Coastal Ocean Science Environmental Management System. For more information, contact Jeff Govoni at (252) 728-8727 or Jeff.Govoni@noaa.gov. (CCFHR)

SAFETY – EMS related

**NOAA Small Boat Operators Receive Safety Training in Collaborative Approach**

Small boat operators from the National Centers for Coastal Ocean Science (NCCOS) and NOAA Fisheries completed mandatory training June 3 and 4 at the Beaufort, NC lab of the Center for Coastal Fisheries and Habitat Research (CCFHR). CCFHR's Vessel Operations Coordinator (VOC), along with a small boat officer from NOAA Fisheries in Pascagoula, MS, trained 13 small boat operators from NCCOS and 11 from NOAA Fisheries. The required eight-hour class reviews the newly released "NOAA Small Boat Standards and Procedures Manual." It also teaches risk assessment procedures, while building leadership and team coordination skills. The training is designed to improve mission safety and efficiency for all small boat operations. Small boat operators at every NOAA facility must complete the training by April 2009. For more information, contact Roger Mays at (252) 728-8798 or Roger.Mays@noaa.gov. (CCFHR)

**Air Compressor to Enhance Employee Safety and Conserve Energy**

This week the National Centers for Coastal Ocean Science, Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) in Charleston, SC, installed a commercial air compressor on site. Initially purchased as a safety measure to ensure properly inflated tires for federal vehicles and boat trailers, it's also available to all CCEHBR and Hollings Marine Laboratory staff for personal vehicles. The two Center staffs combined commute an estimated two thousand miles per week, and fully filled tires help mitigate driving risks. Further, properly inflated tires reduce fuel use, lowering the cost of commuting and contributing to an Environmental Management System goal of energy conservation. For more information, contact Paul

Bauersfeld at (843) 762-8570 or Paul.Bauersfeld@noaa.gov, or Paul Comar at (843) 762-8558 or Paul.Comar@noaa.gov. (CCEHBR)

*6_25_2008*

**Renovated Labs Going Green**

The Harmful Algal Bloom and Analytical Response branch of the National Centers for Coastal Ocean Science's (NCCOS) Center for Coastal Environmental Health and Biomolecular Research has recently moved into renovated space outfitted with new green products. By means of the GSA Advantage website, the staff is now utilizing environmentally friendly products such as biodegradable trash bags, 30% post-consumer recycled paper towels and paper towel holders and bio-based hand soap. These products will help to reduce the environmental impact of the lab in line with the NCCOS Environmental Management System. For more information, contact Tina Mikulski at (843) 762-8562 or Tina.Mikulski@noaa.gov. (CCEHBR)

SAFETY – EMS related

**Chemical Fume Hood Inspections Assure Health and Safety of Laboratory Personnel**

To ensure Center for Coastal Fisheries and Habitat Research (CCFHR) staff remain safe from chemical exposure, a certified fume hood inspector tested and certified 13 chemical fume hoods located in nine research laboratories. Chemical fume hoods primarily protect workers from inhaling hazardous matter emitted from harmful chemicals. The hoods draw in toxic and flammable vapors or other airborne contaminants that might enter the general laboratory atmosphere. It is, therefore, important that all fume hoods are functioning properly and inspected annually. Inspectors check for visual smoke containment, exhaust system performance, air flow pattern, vibration and noise level. The annual inspections demonstrate that the health and safety of laboratory personnel and building occupants is a primary goal of CCFHR management. For more information, contact Joseph Bizzell at (252) 728-7718 or Joseph.Bizzell@noaa.gov. (CCFHR)